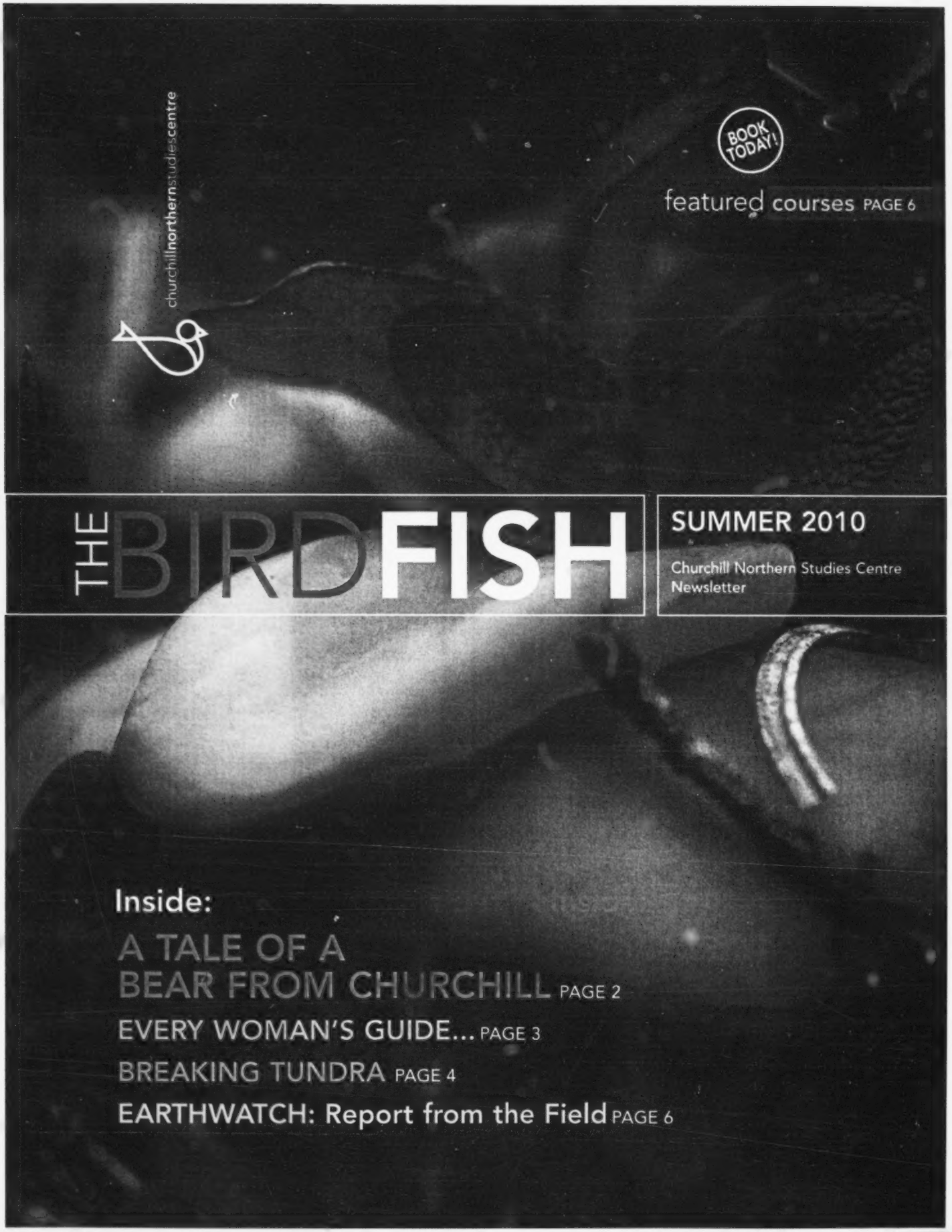
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SUMMER 2010
Churchill Northern Studies Centre Newsletter
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FEATURE

A tale of a bear from Churchill

Brian D'Arcy and Bob D'Arcy

The two zoological parks are visited by some 790,000 visitors each year, so this Churchill polar bear has been reaching a lot of people.

Mercedes in her new enclosure in Highland Wildlife Park, Scotland. Photo: Pearl Manson

PROBLEM POLAR BEARS at Churchill have been captured and relocated for many years, sometimes being far removed from their natural home on Hudson Bay. One such bear was captured in 1983 and, thanks to generous support from the Mercedes car company, relocated in early 1984 to Edinburgh Zoo in Scotland, UK. Mercedes, as the bear became known, has lived at the zoo ever since, until last year when she was relocated again, this time to a new, larger enclosure in the Highland Wildlife Park, in the Grampian mountains some 120m north of Edinburgh. In the summer, environmental conditions in the Scottish Highlands are not unlike those experienced in Churchill, with flowers in the meadows, stands of conifers and birch, amid heather and bilberry and the buzz of insects.

The Royal Zoological Society of Scotland, which runs both Edinburgh Zoo and the Highland Wildlife Park, recognises the value of Mercedes as a champion symbol to promote climate change issues to the general public. A photo display showing polar bears in the Churchill area explains that the southern extreme of the bears' natural range is the first to suffer the adverse impacts; ever longer periods of ice-free conditions on Hudson Bay with no opportunities to hunt the seals that are the natural prey of the bears. The two zoological parks are visited by some 790,000 visitors each year, so this Churchill polar bear has been reaching a lot of people and highlighting the plight of the species and the fragile northern environments. ❄

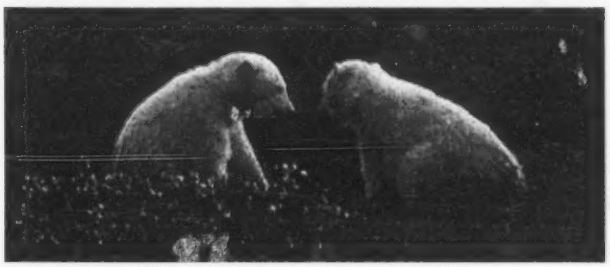


Photo: Bob D'Arcy

What future lies ahead for these young bears photographed in Churchill?

The authors are grateful to Douglas Richardson, Animal Collection Manger, The Royal Zoological Society of Scotland, Highland Wildlife Park. For more information visit: **www.highlandwildlifepark.org.uk** & **www.edinburghzoo.org.uk**

Brian D'Arcy is an environmental consultant. Bob D'Arcy was a volunteer at Churchill Northern Studies centre in the fall of 2008.

CONTEST

OUR MYSTERIOUS NORTH

Lost tongues? Sliced peaches? What the heck is this? Send your responses to **birdfish@churchillscience.ca** to be entered into a draw for a chance to win a CNSC t-shirt.

Every Woman's Guide

to Practical Snowmobile Repair

By Katrina Jansen, CNSC Seasonal Research Technician

It was a dark and stormy night. Well, no. Actually, it was a mild and overcast late-February morning as our crew of four headed out on our valiant 4-stroke Ski-doos for a snow pack survey adventure in the heart of Wapusk National Park. Komatiks and snowmachines packed with four days of gear and food, science equipment, eight 100-pounders of propane and 60 gallons of fuel, Carley Basler (CNSC Research Technician), Heather Stewart (Parks Canada Ecosystem Scientist), Dr. Peter Kershaw (University of Alberta) and myself headed south down the train tracks en route to Broad River.

Seven hours, and a few frozen PB & J sandwiches later, we arrived at the new Parks Canada compound at Broad River. This being my first overnight experience into the park, I had no expectation about the accommodations, however it is safe to say my fellow travellers were more than pleased with the update from the old Owl River cabin of previous years. With an hour or so of daylight remaining, we unpacked our sleds, started up the propane stove and settled in for a nice meal and a warm sleep after a long day of driving.

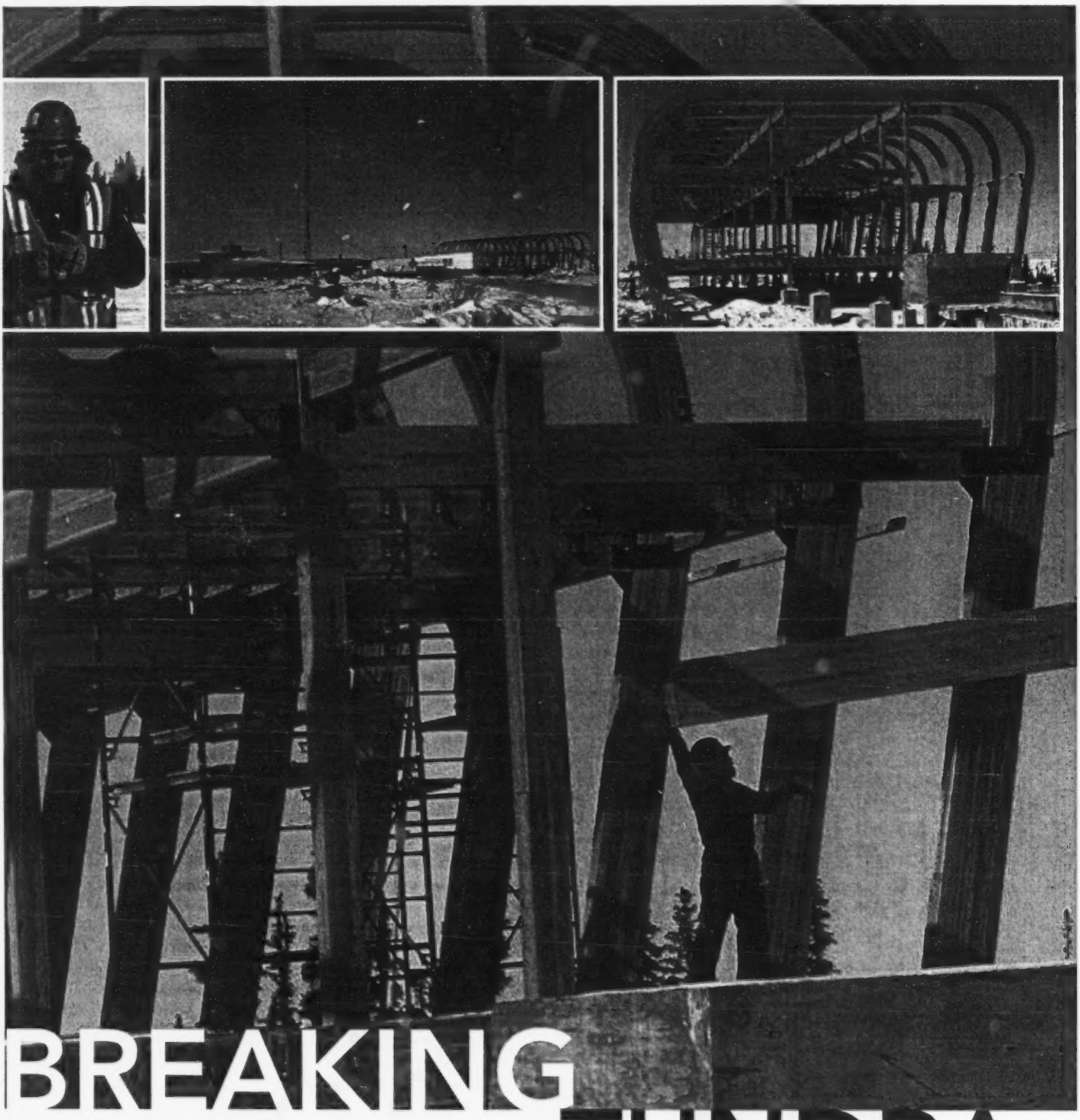
On our first real day in the park we headed a few km's east to the mouth of the Broad River for our first snow pit of the trip. It was another overcast morning, but again fairly mild. Once we tracked down the pit area (with minimal accuracy from the GPS), we got down to business. Pete dug a snow pit and began assessing the snow crystal type and depth at each layer. He used thermometers to determine the temperature at each layer and assessed the hard pack layer using a penetrometer (an instrument that measures snow density). While Pete was hard at work in his hole, Heather, Carley and I began taking our 33 snow core measurements. 33 snow cores may seem like a timely challenge but the three of us worked like a well oiled machine - even with a few snowshoe problems. After a core is measured for depth, using an Adirondack snow corer, it is pulled up right from the bottom snow, called *"pukak"*, and is weighed. The vertical snowpack hardness is assessed using a different type of penetrometer called a RAM Penetrometer.

We repeated this snow pit analysis at 2 more sites that day, one of them a beautiful sunny forested area where we took a science hiatus to enjoy the weather and follow some moose tracks. The next day we geared up early and headed off to the Owl River, 35 km south into the blowing snow. We complete two more pits this day and saw a female polar bear with two young cubs of the year, as well as the tracks of other family groups. It was a successful day for science, yet a bit of a frustrating day for equipment as there was a stuck snowmobile to deal with and some field ingenuity required on Carley and my behalf to fix a broken komatik with limited supplies and in the middle of the tundra.

On day four we started out early hoping to make it back to Churchill in good time, however our equipment had other ideas. Right out of the gate we had another komatik break - which was quickly fixed – and after about one hour of riding one of our machines lost a very important bolt which resulted in the loss of a very important left ski. After an hour of rigging the machine to the (least broken) empty komatik, we again set off on our journey. Finally, 10 hours, one komatik short and one good stuck in the snow later, we arrived in Churchill around 7:30 that evening.

It was a very eventful and enjoyable trip that I am glad I had the chance to experience. My thanks go out to Dr. Kershaw, Mike Goodyear and LeeAnn Fishback for giving me the opportunity to go, as well as to Carley and Heather for putting up with my singing and wit for the four days.

Katrina will soon return to the Churchill Northern Studies Centre through the support of the Government of Canada's Career Focus Program. Wit and focus, who could ask for anything more... ❄



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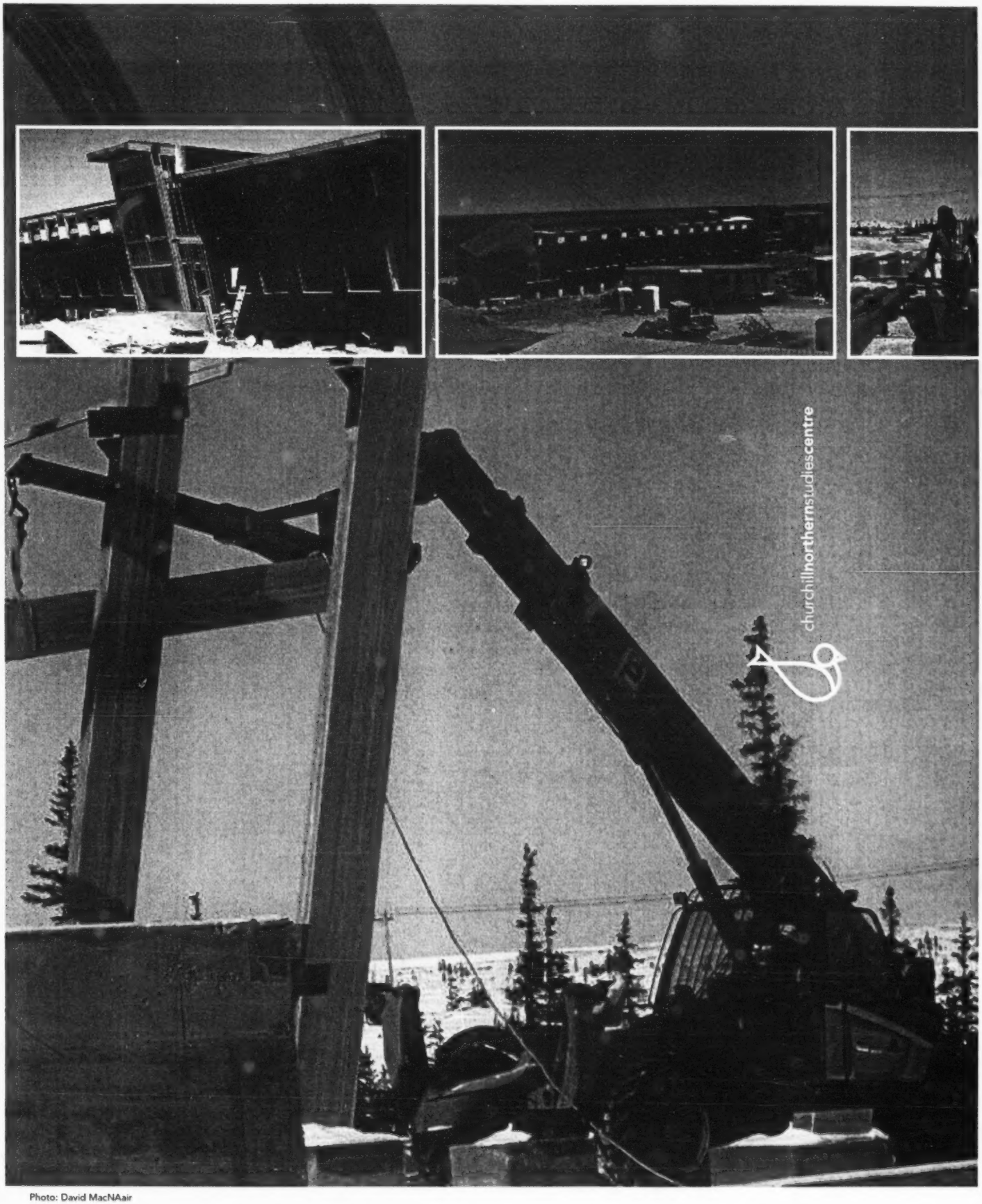


Photo: David MacNAair

Earthwatch

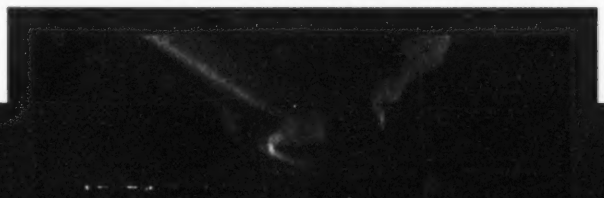
Report from the Field - Team 6 February 2010

By Carley Basler, CNSC Research Technician

I thought I was preparing for a winter Earthwatch team like any other. I spent the weeks leading up to the expedition chatting over email with the Earthwatch participants about how to pack and dress warmly for what I thought would be a typical chilly adventure in Churchill. The participants, as always, came from all over the world and mostly from places that are typically a lot warmer than here.

In anticipation of having the intrepid Earthwatch team out all day doing the snow survey for Dr. Pete Kershaw's Climate Change at Arctic's Edge long-term monitoring project, I worked hard to ensure that everyone had either packed or were outfitted in the warmest gear possible. Little did I know that it would end up being so warm outside for the whole expedition (well, except for the day off...of course).

A typical day on the winter Earthwatch Expedition starts with a hot CNSC breakfast, followed by a morning briefing where Dr. Pete lays out the plans for the day, goes over any questions or issues with data and the ever popular reading of the journal from the previous day. This is normally followed by a short break to allow everyone time to pack up and get dressed for the morning expedition to the first site or set of sites for sampling. While the group is getting dressed, the CNSC Technicians, under the ever watchful guidance of Dr. LeeAnn Fishback, the Scientific Coordinator hurriedly get the snowmobiles warmed up, the komatiks hooked up, and all the scientific equipment packed into the equipment sleigh so we are ready to hit the trail when the group is dressed and gathered outside.



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BOOK TODAY!

Lords of the Arctic
- Hudson Bay's Polar Bears

October 26 – November 2, 2010 * SPACE AVAILABLE *
November 9 – 16, 2010 * SPACE AVAILABLE *
$ 2525 CDN Participants: 34

Witness the annual migration of Churchill's polar bears. Every October and November, polar bears congregate in the Churchill area to await the return of the sea ice and access to the seal hunting grounds. Spend two full days touring the Churchill Wildlife Management Area aboard a custom-built tundra vehicle for an excellent firsthand view of polar bears in their natural habitat. Each evening, in-depth presentations by bear biologists explore this remarkable animal and the challenges they are facing in a warming climate. And if that were not enough, this program also includes a 45 minute helitour along the rugged coastline of Hudson Bay, an afternoon of dog sledding and a tour of the community, including the world-famous Eskimo Museum and its renowned collection of historic and contemporary Inuit art and artefacts. What more can we say? This is our most popular program and truly a once-in-a-lifetime educational experience **– book early.**

Winter Skies
- Aurora and Astronomy

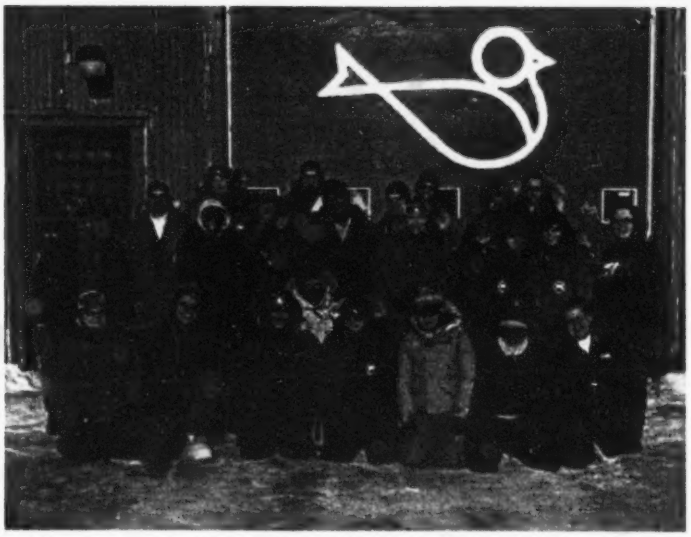
February 10 – 15, 2011 * SOLD-OUT *
March 3 – 8, 2011 * SPACE AVAILABLE *
Instructor: Roger 'Starman' Woloshyn
$ 1015 CDN Participants: 16

Churchill, Manitoba is one of the best spots on Earth to view the Aurora borealis, the spectacular atmospheric phenomenon better known as the Northern Lights. For more than 240 years, astronomers and physicists have journeyed to Churchill, situated directly beneath the aurora oval, to probe the upper atmosphere with cameras, balloons, and even rockets. Now you can learn more about this stunning lightshow, from traditional folklore to the latest scientific findings. View the aurora from the comfort of our heated viewing dome by night and explore the Churchill area by day. Local tours, cultural presentations and an afternoon of dog mushing offer a taste of life in the subarctic. The Churchill Northern Studies Centre, your home for five days, sits in the shadow of massive 1950's era rocket launch towers. As the lights arc overhead in curtains of white, green and red, you'll swear you can hear the countdown.

** **

Our most popular program just got better! For 2010, we've extended our Lords of the Arctic program to seven days allowing even more time to interact with your instructor and visiting scientists. Each program will now feature participation in an actual observational research study on polar bears. Not only will you get to observe polar bears in their natural environment, but as a "researcher for a day" you will contribute directly to our understanding of these magnificent animals.

For more information on these and other exciting course offerings at the Churchill Northern Studies Centre, please visit www.churchillscience.ca and download our course brochure today! Well, what are you waiting for?



Once we have arrived at a site, the group will attempt (with varying success) to get into their snowshoes and trek onto the site. For many, this is their first time on snowshoes which usually provides us with our daily quota of laughter. Snow pit sites are selected and the teams get down to work measuring snow pack depth, density, layering and crystal types followed by a series of snow cores that are used to ascertain the amount of water that snow will amount to in the spring melt. Some samples are bagged and brought back to the Centre at the end of the day to be melted. Conductivity and pH tests are done and all the data is entered into spreadsheets before dinner. After dinner, the crew are entertained by one of Dr. Pete's infamous lectures on climate change, permafrost and other engaging topics.

This routine repeats itself over and over again throughout the ten day expedition and near the end, everyone is usually sick and tired of the cold weather and all the dressing and undressing from the many necessary layers. Fortunately for us, due to the warm weather we had this year, we finished the work in record time, were able to engage in some extra activities like igloo building, dog-sledding and many walks back to the centre from different sites. I think I can speak on behalf of everyone who participated in this year's winter Earthwatch Team 6 in saying that it was the warmest, sunniest, and best winter Earthwatch yet. ❄

Hello, my name is...what?

For many years, the Churchill Northern Studies Centre has hosted a wide variety of educational programming for Elderhostel International, a non-profit organization committed to lifelong learning. Elderhostel recently changed their name to ***Exploritas***. Due to inadvertent trademark issues and some confusion among participants, this name is being discontinued. Beginning now all Elderhostel programs will be called ***Road Scholar*** programs. Nothing else will change. Elderhostel will continue as the name of organization and will continue to offer the same variety of programs and activity levels. The CNSC hosts *Lords of the North: Hudson Bay's Polar Bears; Arctic Spring: Birding in Churchill; An Arctic Summer: Beluga Whales and Wildflowers; Ptarmigan to Pelicans: Birding in Manitoba*; and *Into the Arctic Skies: Aurora and Astronomy in Churchill*. Be sure to visit **www.roadscholar.org** for more details on these and other exciting programs! ❄

ROAD SCHOLAR
Adventures in Lifelong Learning

Established in 1976, the Churchill Northern Studies Centre is an independant, non-profit research station located along the western coast of Hudson's Bay.

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The Birdfish Newsletter is produced by CNSC staff with assistance from researchers and program participants.

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